Applicants have disclosed discovering Cisco Discovery Protocol (CDP) devices in a network in real time (e.g., paragraph [0013]). The Cisco Discovery Protocol (CDP) is an example of a protocol for discovering devices on a network. Each CDP device sends periodic messages to a multicast address (i.e., a node that can broadcast the information to multiple nodes). Devices discover each other by listening at the multicast address. Then, a local cache with information about these devices is built.

As exemplified in Fig. 2, the discovery process starts, in step 210, by transmitting a signal from a network manager to a first CDP node of the network (e.g., paragraph [0014]). The signal is a SNMP message that accesses the CDP MIB of the first CDP node. The CDP MIB contains valuable information about the node and also information of other neighboring CDP nodes on the network. The signal requests information regarding the additional CDP nodes known to the first node. In step 220, the network manager receives a response that identifies additional CDP nodes known to the first CDP node. The transmitting and receiving steps are then repeated for each additional CDP node identified, in step 230. A list containing addresses of all identified nodes is then stored, in step 240.

Applicants have further disclosed that the discovery process can be seeded by either a user input or from previously identified nodes (e.g., paragraph [0016]). For example, the user can be queried to provide a first CDP node information 204. A signal is transmitted from a network manager to the first CDP node of the network. The signal requests information regarding additional CDP nodes on the network (paragraph [0014]). The signal can be an SNMP message that accesses the CDP

MIB of the first CDP node (paragraph [0014]). These features can speed the discovery of desired portions of the network.

The foregoing features are broadly encompassed by claim 1 which recites, among other features, a method of discovering Cisco Discovery Protocol (CDP) nodes in a network in real time, including, seeding a discovery process using at least one of querying a user to provide a first CDP node information and searching a database of CDP nodes previously discovered by a network manager to identify a first CDP node, and transmitting a signal from the network manager to the first CDP node of the network, wherein the signal requests information contained in a management information base of the first CDP node regarding additional CDP nodes known to the first CDP node. Claim 15 similarly recites a method for discovering CDP nodes of a network; and claim 16 similarly recites a computer-based system that discovers Cisco Discovery Protocol (CDP) nodes in a network in real time.

The Suzuki patent does not teach or suggest a method or a system for discovering Cisco Discovery Protocol (CDP) nodes in a network in real time. Rather, the Suzuki patent discloses network topology discovery method for recognizing ATM network connections, the ATM information being exchanged using Interim Local Management Interface (ILMI) protocol to identify neighboring ATM ports, switches and terminals that are directly connected to an ATM ports (col. 7, lines 13-19). As shown in Fig. 3, information exchanged through the ILMI protocol is used to identify ATM links, e.g., Sw2-router 1, Sw2-Sw1, Sw2-Sw4, and Sw3-Sw4. The ILMI protocol as disclosed relates to Network Node Interfaces (NNI) between ATM switches and User-Network Interfaces (UNI) between ATM switches and ATM terminals (col. 7, lines 3-13). However, the Suzuki patent does not teach or suggest

a system and method of discovering Cisco Discovery Protocol (CDP) nodes in real time as claimed.

On page 2 of the final Office Action, the Examiner asserts that the Suzuki patent teaches "seeding a discovery process using at least one of querying a user to provide a first node information..." This assertion is respectfully traversed. The Suzuki patent discloses a network management system connected from outside an ATM network, shown in Fig. 3 as NMS-B. The Suzuki patent discloses that NMS-B first recognizes the existence of router 1 by reading out its own address conversion cache table by the auto IP node discovery system of the prior art (col. 12, lines 12-24). Further, the Suzuki disclosure relates to mapping out ATM switches and terminals within the ATM network. The Suzuki patent does not teach or suggest seeding a discovery process using at least one of querying a user to provide a first CDP node information and searching a database of CDP nodes previously discovered by a network manager to identify a first CDP node, as recited in claim 1, and as similarly recited in claims 15 and 16.

Further, bridging pages 2 and 3 of the final Office Action, the Examiner asserts that the Suzuki patent teaches "transmitting a signal from a network manager to the first node of the network, wherein the signal requests information contained in a management information base of the first CDP node regarding additional nodes known to the first node..." This assertion is respectfully traversed. The Suzuki patent discloses a network manager (NMS-A) obtaining an SNMP agent network address IP-Sw1 of an ATM switch (Sw1), whereby NMS-A accesses agent IP-Sw1 to read out the table shown in Fig. 11 for ATM switch Sw1, thus recognizing the existence of an ATM switch Sw1 having port 1 to port 5 (col. 10, lines 36-51).

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However, the disclosure does not relate to querying a management information base of a Cisco Discovery Protocol node regarding additional CDP nodes known to the Cisco Discovery Protocol node. The Suzuki patent does not teach or suggest transmitting a signal from the network manager to the first CDP node of the network, wherein the signal requests information contained in a management information base of the first CDP node regarding additional CDP nodes known to the first CDP node, as recited in claim 1, and as similarly recited in claims 15 and 16.

The Suzuki patent does not teach or suggest discovering Cisco Discovery Protocol nodes based on 1) seeding a discover process using at least one of querying a user to provide a first CDP node information and searching a database of CDP nodes previously discovered by a network manager to identify a first CDP node, and 2) requesting information contained in a management information base of the first CDP node regarding additional CDP nodes known to the first CDP node, as recited in claims 1, 15 and 16.

The Ahearn et al. patent does not teach or suggest seeding a discovery process using at least one of querying a user to provide a first CDP node information and searching a database of CDP nodes previously discovered by a network manager to identify a first CDP node, and transmitting a signal from the network manager to the first CDP node of the network, wherein the signal requests information contained in a management information base of the first CDP node regarding additional CDP nodes known to the first CDP node. In contrast, the Ahearn et al. patent discloses a tool which enables a network manager to trace a bad route within a routing table from a router back to the source of the route (col. 11, lines 7-9). The Ahearn et al. patent discloses that "the user must first select a router

and enter the destination IP address of the bad route" (col. 11, lines 9-10). The Ahearn et al. patent does not teach or suggest discovering Cisco Discovery Protocol nodes based on 1) seeding a discover process using at least one of querying a user to provide a first CDP node information and searching a database of CDP nodes previously discovered by a network manager to identify a first CDP node, and 2) requesting information contained in a management information base of the first CDP node regarding additional CDP nodes known to the first CDP node, as recited in claims 1, 15 and 16.

In paragraph 12, page 5 of the final Office Action, the Examiner takes Official Notice that network topology detection tool normally is equipped with Graphical User Interface. Notwithstanding the Examiner's assertion, claim 11 specifically recites displaying the identified CDP nodes in a Graphical User Interface; and claim 12 specifically recites modifying the list in real time to facilitate real time display of identified CDP nodes as each CDP node is identified, wherein the real time display is presented as a graphical topology of the network on a Graphical User Interface. These recited features are not well known, nor are they obvious to one of ordinary skill, especially when viewed in combination with the features of the claim from which they depend from.

For the foregoing reasons, Applicant's claims 1, 15 and 16 are allowable over the Ahearn patent. The remaining claims depend from independent claims 1 and 16 and recite additional advantageous features which further distinguish over the document relied upon by the Examiner. As such, the present application is in condition for allowance.

All objections and rejections raised in the Office Action having been

addressed, it is respectfully submitted that the application is in condition for

allowance and a Notice of Allowance is respectfully solicited.

Respectfully submitted,

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